CENTRAL INTELLIGENCE AGENCY REPORT NO.

INFORMATION REPORT

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COUNTRY Germany (Russian Zone)

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SUBJECT 1. Rail Stocks
2. Rails Mounted on Reinforced Concrete Ties

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a. Stocks of old rails kept by the State Railroads are of limited usability. Most of these rails have only scrap value but as there is an acute shortage of new rails, the stock of old rails must be sorted again and again at great cost, in order to find rail material which can be reconditioned for further use. Most of these reclaimed rails, because of excessive wear and tear, can be used only on third class railroad tracks.

b. Of the usable rails, 15,000 meters or 675 tons must be kept available for emergency cases by order of the SOC so that only 120,000 meters of rails or 4,950 tons remain available for current track maintenance operations. (See Tabulation I below). This means that only approximately 15,000 meters of rails will be at the disposal of each of the eight regional railroad headquarters. As there are about 20 different types of rails, and as at least the most commonly used standard and closing length of each of these types must be kept on hand for the replacement of broken rails and for urgent repair work, only about 125 meters of each of the 20 types of rails would be actually available for current maintenance work in each of the eight railroad districts. This quantity is barely adequate. The rails listed in Tabulation II below are reconditioned for further use. In 1951, a total of 573,000 meters of rails was reconditioned. On 17 September 1951, the Directorate General ordered the regional railroad headquarters to have rails of Tabulation IV under five meters in length scrapped. (1) This order will affect about 40,000 meters of rails or about 1,400 tons. In addition, approximately 59,600 meters of rails, or 2,190 tons, listed in Tabulation II and IV will be turned over to nationalized industrial plants to be used for building purposes. Stocks of old but still usable rails decreased from over 30,000 tons available on 31 September 1951 to 21,201 on hand at the end of November 1951. In the course of 1951, a total of 1,267,661 meters of rails, i.e., an estimated 50,700 tons, were installed. Compared with these requirements, the stocks of old rails which are still serviceable or capable of being reconditioned are very low.

c. Tabulation of requirements for old but serviceable rails in 1952 as replacement of:

130 km of trackage:	260 km of category 1-3 rails,		10,400 tons
495 km of rails:	495 km " 1-3 " ,		19,800 "
2,200 switches:	200 km "		9,000 "
		Total:	39,200 tons.

This tabulation shows that tracks, rails and switches cannot be replaced or maintained as scheduled on the basis of available stocks of old, usable rails. Rail material required for new projects to be executed in 1952 were not included in the tabulation.

d. According to tabulations made by the individual regional railroad headquarters at the end of October 1951, the following stocks of used rails were available:

Tabulation I. (Serviceable rails)

Narrow-gauge Rails (28 kg/meter)	Light Type Rails (35 kg/meter)	Medium Type Rails (42 kg/meter)	Heavy Type Rails (49 kg/meter)	Total
2,202 (66)	48,205 (1,687)	74,771 (3,166)	37,117 (1,781)	162,295 (6,700)

Tabulation II. (Rails Capable of Reconditioning)

2,126 (60)	68,016 (2,381)	74,032 (3,109)	69,685 (3,415)	213,860 (8,965)

Tabulation III, (Category 4 Rails, Suitable only for Minor Tracks)

10,030 (281)	27,144 (950)	12,994 (534)	13,095 (642)	63,233 (2,407)

Tabulation IV. (Usable for Non-Railroad Purposes)

	149,402 (5,232)
Grand Total	588,870 (23,304)

Stocks of rails available at the end of November 1951:

Tabulation I. (Serviceable rails)

3,357 (94)	27,320 (956)	78,796 (3,359)	25,687 (1,259)	135,160 (5,613)

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Tabulation II. (Rails Capable of Reconditioning)

5,387 (151)	69,776 (2,442)	67,110 (2,818)	63,165 (3,095)	205,438 (8,506)

Tabulation III. (Category 4 Rails, Suitable only for Minor Tracks)

17,085 (478)	19,113 (669)	13,401 (563)	10,772 (538)	60,371 (2,248)

Usable for non-railroad purposes	143,691 (5,029)
Grand Total	544,660 (21,201)

Note: Figures in parentheses indicate the weight of rails in tons. (2)

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[redacted] Comments.

(1) The reconditioning of rails includes the welding together of short sections into standard lengths of 15 meters.

(2) Stocks of rails available at the end of November 1951 are far below 1952 requirements. Thus either scheduled construction projects will have to be cancelled or more railroad lines will have to be dismantled.

(3) The quality of these rails produced by the Max Huette plant has always been [illegible] poor. Good rails must have a strength of at least 70 kg/mm.

(4) The shortage of wooden ties has forced almost all countries to experiment with concrete or reinforced ties. However, it has not been possible, to date, to fasten rails to such ties without difficulty. It is undetermined if this new method is a solution.

(5) It is believed that this measure is connected with the SCC order to have a reserve of 1[illegible],000 meters of rails established in the Soviet Zone of Germany. See also paragraph 1[illegible] of the present report.

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A Method of Mounting of Rails on Reinforced Concrete Ties.

The most important problem for the utilization of reinforced concrete ties is the mounting of rails. Almost all the reinforced concrete ties previously tested were designed so that rails were secured to them either directly or via a tie-plate by means of screws inserted into dorels, which were embedded in concrete. However, both methods proved to be unsatisfactory.
For this reason, a new method designed to guarantee a solid and durable connection between ties and rails has been developed. Based on experience with type R ribbed sleepers, which has proved reliable, a new ribbed tie-plate, which is embedded in the concrete of the tie, has been designed. This device makes it possible to secure the rail to the tie plate by means of standard clips and jaw screws just as with the type I permanent way.
There are ribbed reinforcements on the underside of the heads of the tie plate and they are designed to take up the transverse pressure and torsion and to transmit them to the four angle braces in the angles between the bottom surface of the plate and the ribbed reinforcements of the ties. The braces grip the iron mountings of the tie and are kept in place by two rods. If the concrete of the ties is reinforced by wheel irons, these rods are not required. The new tie incorporates an arched underside typical of connections used in ferro-concrete constructions and meets all requirements. A space between the ribs of the tie plate increases its resistance against rail creeping and prevents the direct taking up of pressure by the concrete.